

W10split+2

Date: Wednesday, 5/31/2006 7:31:07 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: SUPPORT (412 AFT)	
Job Number	: 27266 A-3-2		Part Number	: D28961	
Estimate Number	: 11060		Drawing Number	: D2896 REV A4	
P.O. Number	: N/A		Project Number	: N/A	
This Issue	: 5/31/2006 S.O. No. : N/A		Drawing Revision	: A4	
Prsht Rev.	: NC		Material	: N/A	
First Issue	: N/A		Due Date	: 6/10/2006 Qty: 15 Um: Each	
Previous Run	: 26683				
Written By					
Checked & Approved By	: <u>KJ</u> 06.05.31				
Comment	: Est: B 02.01.26 Reformat; Added P/O; Added mask hole KJ				

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	PG	PURCHASING	
		Comment: PURCHASING Issue P/O: <u>1381</u> CD04104101 Description: D6104-011 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 Material release note required. Blank size makes (2) D2896-1	
2.0	D6104011	17-4 SS Roundbar 6.50"OD	
		Comment: Qty.: 1.0000 Each(s)/Unit Total : 15.0000 Each(s) Support Q6 06.07.17 15	
3.0	PACKAGING 1	PACKAGING RESOURCE #1	
		Comment: PACKAGING RESOURCE #1 Recieve & Inspect for Transit Damage Ensure Material Release Note is attached	
4.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE	 <u>Issue P.O. 2068</u> SL 06/06/12 (15)
		Comment: MORI SEIKI CNC LATHE LARGE Turn blank for Haas as per Folt FA167	 <u>turn per DS1080</u> (15)
5.0	RS	INSPECT ALL DIM TO DIM SHEET	 <u>Recieve + Inspect</u> (15)
		Comment: INSPECT ALL DIM TO DIM SHEET	 <u>for T.2MS + Image 06/10/04</u> (14)
		5th Inspect level 5	 <u>and 06/10/06</u> (14)

W/O:

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR: 27 266 WORK ORDER NON-CONFORMANCE (NCR)

DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
06/10/12	# 6.0	Scien (A) parts have the hole 0.625" cracked. and the 0.625" hole is out sized.	B JGD	Scrap & Destroy	ES 07/01/13	J	J	J
06/10/12	# 6.0	One (1) part hole not drilled through 0.625" insert in Drill broke.	B JGD	Scrap & Destroy	ES 07/01/13	J	J	J
06/10/12	# 6.0	(1) ore part scrap Aoryin Mount Duct Machine	B JGD	Scrap & Destroy	ES 07/01/13	J	J	J

Part No: D28961

PAR #: N/A

Fault Category: Prod / Machine

Part
NCR:

Yes

No

DQA:

Date: 07/01/13

NOTE: Date & initial all entries

QA: N/C Closed:

Date:

Date: Wednesday, 5/31/2006 7:31:07 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SUPPORT (412 AFT)

Job Number: 27266

Part Number: D28961

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 BAND SAW

BAND SAW

Comment: BAND SAW

Machine as per Folio FA167
Tumble & Deburr



Wm Morris
PTO

✓ ✓ 5.6 fmh 06/12/18

7.0 QC1

INSPECT ALL DIM TO DIM SHEET



✓ ✓ 5.6 fmh 06/12/18

II

Comment: INSPECT ALL DIM TO DIM SHEET

8.0 QC8

SECOND CHECK



Comment: SECOND CHECK

J.F.

07/01/09

9.0 HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Mask .00.625" hole prior to paint.

10.0 POWDER COATING

POWDER COATING



FC 07/01/18

Primer inside base of support
as per QSPD 4.2

11.0 QC3

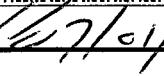
INSPECT POWDER COAT/CHEMICAL CONVERSION



✓ 07/01/03

Comment: INSPECT POWDER COAT

Inspect primer



II

12.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 374

DOCUMENT CONTROL



II

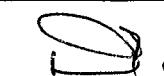
13.0 DC



07/01/19

Comment: DOCUMENT CONTROL

Inspection Level 21



II

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

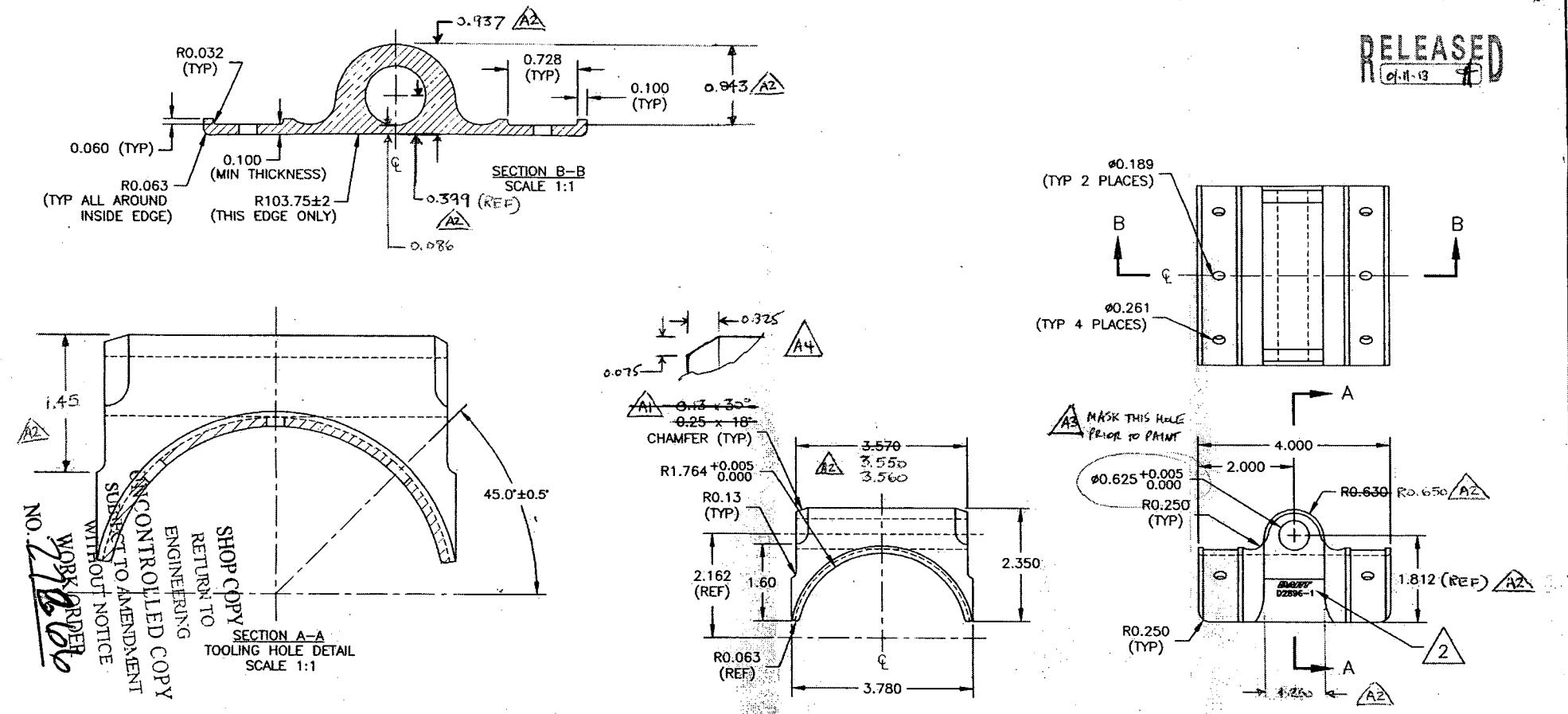
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
06/12/18	6.0	1 Part from W/O 29705 was I.D. as 27266.		Acet Part to this ~10. 10	3.6 06/12/18	06/12/18		06/12/18

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

RELEASED
01.11.13



D2896-1

- 1) MATERIAL: 17-4 PH STAINLESS STEEL
HEAT TREAT TO H900 CONDITION
(900°F FOR 1 HR, AIR COOL)
MIN UTS = 170 KSI (38 HRc)
- 2) IDENTIFY WITH DART LOGO AND PART NUMBER IN THIS AREA
WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP
- 3) BREAK ALL UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) FINISH: POWDER COAT WHITE (REF 4.3.5.2) PER DART QSI 005 4.3
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 7) ALL DIMENSIONS ARE IN INCHES

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THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE LTD.

D2896-1

A4	CP	04.05.14	CORRECT CHAMFER
A3	CP	02.11.20	ADD MASKING NOTE
A2	CP	02.06.04	ADD DIMS, CHANGE RAD
A1		01.11.13	CHANGED CHAMFER CP
A		01.10.19	NEW ISSUE
DESIGN	CP	DRAWN BY	DART
CHECKED	CP	APPROVED	DART AEROSPACE LTD. WINDSOR, ONTARIO, CANADA
DATE	01.10.19	DRAWING NO.	D2896
		TITLE	SUPPORT
		SCALE	1:2
		REV. A	
		SHEET 1 OF 1	

DART AEROSPACE LTD	Work Order:	27266
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. A4		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2896 Rev A4/DSK080 Rev A and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
Lathe Section									
A	3.480	3.485		3.481	3.481	3.482	3.481		
B	3.990	4.010		3.993	3.995	3.997	3.994		
C	3.825	3.845		3.835	3.835	3.832	3.834		
D	0.718	0.738		0.725	0.727	0.724	0.721		
E	0.090	0.110		0.102	0.101	0.103	0.102		
F	3.705	3.725		3.712	3.713	3.717	3.712		
G	1.360	1.380		1.373	1.370	1.372	1.371		
H	1.250	1.260		1.257	1.255	1.257	1.256		
I	6.490	6.510		6.495	6.494	6.493	6.495		
J	0.022	0.042		0.032	0.032	0.035	0.032		
K	0.240	0.260		0.250	0.250	0.250	0.250		
L	0.107	0.127		0.117	0.118	0.118	0.116		
M									
HAAS Section									
AA	2.152	2.172		2.162	2.161	2.160	2.153		
AB	2.340	2.360		2.350	2.352	2.351	2.354		
AC	3.550	3.560		3.556	3.556	3.555	3.553		
AD	3.770	3.790		3.781	3.776	3.770	3.776		
AE	0.065 x 0.315	0.085 x 0.335		0.075x325	0.075x320	0.070x320	0.070x321		
AF	1.42	1.48		1.451	1.459	1.444	1.450		
AG	0.833	0.853		0.849	0.844	0.841	0.847		
AH	0.240	0.260		0.250	0.250	0.250	0.250		
AI	0.261	0.266	DT8707	0.263	0.261	0.261	0.261		
AJ	0.189	0.194	DT8706	0.189	0.188	0.189	0.189		
AK	1.990	2.010		2.004	2.001	2.005	2.007		
AL	0.625	0.630	DT8709	0.627	0.630	0.627	0.627		
AM	101.75	105.75	DT8607						
AN	0.053	0.073		0.063	0.063	0.063	0.063		
AO	0.927	0.947		0.947	0.943	0.943	0.945		
AP									
AQ									
Accept/Reject									

Measured by:	<i>SML</i>	Audited by:	<i>EP</i>	06.12.18
Date:	<i>06/10/11</i>	Date:		

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF <i>#</i>	<i>#</i>

DART AEROSPACE LTD	Work Order:	27266
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. A4		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2896 Rev A4/DSK080 Rev A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	(3) AM SGS	4	By	Date
Lathe Section									
A	3.480	3.485		3.481	3.481	3.481	3.481		
B	3.990	4.010		3.995	4.000	4.000	4.000		
C	3.825	3.845		3.835	3.834	3.834	3.835		
D	0.718	0.738		0.722	0.728	0.722	0.725		
E	0.090	0.110		0.108	0.101	0.100	0.100		
F	3.705	3.725		3.715	3.712	3.715	3.715		
G	1.360	1.380		1.373	1.375	1.373	1.373		
H	1.250	1.260		1.256	1.257	1.257	1.258		
I	6.490	6.510		6.495	6.495	6.495	6.495		
J	0.022	0.042		0.035	0.032	0.032	0.032		
K	0.240	0.260		0.250	0.250	0.250	0.250		
L	0.107	0.127		0.117	0.120	0.125	0.125		
M									
HAAS Section									
AA	2.152	2.172		2.170	2.152	2.162	2.162		
AB	2.340	2.360		2.350	2.342	2.360	2.342		
AC	3.550	3.560		3.554	3.553	3.559	3.553		
AD	3.770	3.790		3.775	3.777	3.783	3.775		
AE	0.065 x 0.315	0.085 x 0.335		0.075x.328	0.070x.310	0.070x.335	0.070x.335		
AF	1.42	1.48		1.445	1.443	1.455	1.453		
AG	0.833	0.853		0.839	0.842	0.838	0.841		
AH	0.240	0.260		0.250	0.260	0.250	0.250		
AI	0.261	0.266	DT0707	0.263	0.263	0.261	0.261		
AJ	0.189	0.194	DT0706	0.190	0.189	0.189	0.189		
AK	1.990	2.010		2.003	1.996	2.001	1.997		
AL	0.625	0.630	DT0709	0.627	0.630	0.627	0.625		
AM	101.75	105.75	DT0807						
AN	0.053	0.073		0.063	0.063	0.063	0.063		
AO	0.927	0.947		0.938	0.938	0.947	0.947		
AP									
AQ									
Accept/Reject									

Measured by:	<i>ML</i>	<i>IP</i>	Audited by:
Date:	06/10/11	06/11/11	Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	#

DART AEROSPACE LTD	Work Order:	27266
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. A4		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2896 Rev A4/DSK080 Rev A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	3.480	3.485		3.481	3.481	3.481	3.481		
B	3.990	4.010		4.000	4.000	4.000	4.000		
C	3.825	3.845		3.834	3.840	3.840	3.839		
D	0.718	0.738		0.725	0.725	0.725	0.725		
E	0.090	0.110		0.100	0.100	0.100	0.100		
F	3.705	3.725		3.715	3.715	3.715	3.715		
G	1.360	1.380		1.373	1.373	1.373	1.373		
H	1.250	1.260		1.258	1.258	1.260	1.259		
I	6.490	6.510		6.495	6.495	6.499	6.500		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.240	0.260		0.250	0.250	0.250	0.250		
L	0.107	0.127		0.115	0.115	0.115	0.115		
M									
HAAS Section									
AA	2.152	2.172		2.162	2.162	2.162	2.162		
AB	2.340	2.360		2.356	2.360	2.360	2.360		
AC	3.550	3.560		3.556	3.556	3.559	3.559		
AD	3.770	3.790		3.776	3.777	3.779	3.780		
AE	0.065 x 0.315	0.085 x 0.335		0.075 x 0.326	0.074 x 0.324	0.074 x 0.324	0.075 x 0.325		
AF	1.42	1.48		1.454	1.454	1.450	1.450		
AG	0.833	0.853		0.846	0.847	0.847	0.847		
AH	0.240	0.260		0.250	0.250	0.250	0.250		
AI	0.261	0.266	DT8707	0.261	0.261	0.261	0.260		
AJ	0.189	0.194	DT8706	0.189	0.189	0.189	0.189		
AK	1.990	2.010		2.000	2.000	2.000	2.000		
AL	0.625	0.630	DT8709	0.627	0.627	0.628	0.626		
AM	101.75	105.75	DT8897	—	—	—	—		
AN	0.053	0.073		0.063	0.063	0.063	0.063		
AO	0.927	0.947		0.946	0.946	0.946	0.946		
AP				±0.004	±0.004	±0.002			
AQ									
Accept/Reject									

Measured by:	EP / S.G.	Audited by:	
Date:	06/12/16 06/12/16	Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	#

→ 0.625" Bore Must be perpendicular to 1.764 within .003"

DART AEROSPACE LTD	Work Order:	Z7Z66
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. A4		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2896 Rev A4/DSK080 Rev A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	3.480	3.485		3.485					
B	3.990	4.010		4.006					
C	3.825	3.845		3.830					
D	0.718	0.738		0.720					
E	0.090	0.110		0.100					
F	3.705	3.725		3.710					
G	1.360	1.380		1.370					
H	1.250	1.260		1.252					
I	6.490	6.510		6.500					
J	0.022	0.042		0.032					
K	0.240	0.260		0.250					
L	0.107	0.127		0.115					
M									
HAAS Section									
AA	2.152	2.172		2.162					
AB	2.340	2.360		2.360					
AC	3.550	3.560		3.555					
AD	3.770	3.790		3.770					
AE	0.065 x 0.315	0.085 x 0.335		0.065 x 0.335					
AF	1.42	1.48		1.450					
AG	0.833	0.853		0.847					
AH	0.240	0.260		0.250					
AI	0.261	0.266	DT8707	0.260					
AJ	0.189	0.194	DT8706	0.190					
AK	1.990	2.010		2.000					
AL	0.625	0.630	DT8709	0.626					
AM	101.75	105.75	DT8697	—					
AN	0.053	0.073		0.063					
AO	0.927	0.947		0.946					
AP									
AQ									
Accept/Reject									

Measured by:	J.G	Audited by:	
Date:	06/12/17	Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	#



VALBRUNA

SLATER STAINLESS, INC.
2400 Taylor Street West, P.O. Box 630
Fort Wayne, Indiana USA 46801
Phone: 260-434-2892 Fax: 260-434-2905

Product Certification Report

Report Number: 4175320

Certified on May 04, 2006 Page 1 of 1

Order I.D.	Order Date	Commodity Code				
Dim 1	Dim 2	Dim 3	Heat I.D.	Customer I.D.	Customer Purchase Order	
6.5000	.0000	.0000	242034	001155	CJ5161	
Product Shape	Product Surface				Customer Grade	
Rounds	HR & Rough Turned				17-4	
Length (inches)	Min. 120.000 Max. 168.000		Bill of Lading #	Weight		
			403137			

Ship To | COPPER AND BRASS SALES
415 STATE PARKWAY
SCHAUMBURG, IL 60173

Sold To

VALBRUNA STAINLESS, INC.
2400 TAYLOR STREET WEST
FORT WAYNE, IN 46802

Lifts: 0025 0026 0027 0029

AISI 630

CONDITION A

ASTMA 564-04

ASMESA 564 01 ED 2002 ADD

AMS 5643Q

MAXX stainless

AMS 2303E

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta	Cb+Ta
.035	.60	.023	.020	.43	15.61	4.75	.23	3.15	.03	.28	.001	.28

HB

351

TENSILE PROPERTIES

CAPABILITY

HB	TS (PSI)	.2%YS (PSI)	%EL(2")	%RA	AGE(F)
414	196400	185100	16.0	48.3	900

MAGNETIC PARTICLE TEST

FREQ SEV

AVG .00 .00

MACRO ASTM E340/E381

MACRO

OK

OK

OK

PERCENT FERRITE

% FERRITE

AVG .0

Free of mercury and low melting alloy contamination.

MAXX-stainless.

Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E1086. No mercury or low melting alloy contamination. No weld repair.

Material melted in Italy, manufactured in the United States.

Material conforms to listed specifications.

Quality system is compliant with ISO 9001:2000. Produced in accordance with EN 10204 3.1B.

COPPER AND BRASS SALES

SOLD TO: C & B

DATE: 6/2 QTY. 500 LBS

CUSTOMER PO: 6000138

SHIPPER NO: 4443315

BY: S

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal law, Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info.

I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services

Dennis Hackett

COPPER AND BRASS SALES

MATERIAL TYPE STAINLESS STEEL

AISI SERIES
200 300 400
AND
PRECIPIT HARDENING GRADES

"WARNING"

INHALATION OF FUMES, FRESHLY GENERATED BY THE WELDING OF STAINLESS STEEL CONTAINING ONE OR MORE OF THE FOLLOWING INGREDIENTS, ZINC, MAGNESIUM OR COPPER, ARE KNOWN TO CAUSE METAL FUME FEVER. INHALATION OF DUST OR FUME FROM STAINLESS STEEL CONTAINING ONE OR MORE OF THE FOLLOWING INGREDIENTS, ALUMINUM, IRON, MANGANESE, SELENIUM, OR TIN, HAS ALSO BEEN REPORTED TO CAUSE METAL FUME FEVER AND MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT AND/OR AGGRAVATE PRE-EXISTING CONDITIONS. TARGET ORGAN IS PRIMARILY THE LUNG.

THIS PRODUCT CONTAINS CHROMIUM. EXPOSURE TO CHROMIUM DUST OR FUME MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED, IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. THIS PRODUCT MAY ALSO CONTAIN NICKEL AND COBALT. INHALATION OF NICKEL OR COBALT DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT. NICKEL AND COBALT HAVE BEEN IDENTIFIED AS POTENTIAL HUMAN CARCINOGENS.

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE STAINLESS STEEL MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL

- * If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use respiratory protection (P100, quantitative fit testing required) if exposures exceed the permissible limits.
- * The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.
- * Stainless Steel, in solid form and as contained in finished products presents no special health risk.
- * Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

The Occupational Safety and Health Administration require employers to provide training in the proper use of this product.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48034, telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.



CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ont.
K6A 1K7

SHIPPED TO:

same

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME</u>	<u>P.O. NUMBER</u>
10	DSK076	Support as per Dwg DSK076 D6104-003 B28388	2068
8	DSK076	Support as per Dwg DSK076 D6104-003 B28077	2068
10	DSK076	Support as per Dwg DSK076 D6104-003 B26715	2068
20	DSK077	Support as per Dwg DSK077 D6104-003 B28389	2068
8	DSK077	Support as per Dwg DSK077 D6104-003 B27970	2068
7	DSK077	Support as per Dwg DSK077 D6104-003 B28078	2068
14	DSK080	Support as per Dwg DSK080 D6104-011 B27266	2068

MATERIAL: supplied by DART

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.


Shigi (Regula) Walz

Vankleek Hill, September 20, 2006